

DOCKETED

1

IN THE UNITED STATES DISTRICT COURT FOR THE
SOUTHERN DISTRICT OF NEW YORK

Midway Manufacturing Company - a Corporation

vs.

The Magnavox Company - a Corporation

and

Sanders Associates, Inc., - a Corporation

* * * *

IN THE UNITED STATES DISTRICT COURT FOR THE
NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

The Magnavox Company, et al

vs.

Bally Manufacturing Corporation, et al

* * * *

IN THE UNITED STATES DISTRICT COURT FOR THE
NORTHERN DISTRICT OF CALIFORNIA

Atari Inc., a Corporation

vs.

The Magnavox Company, a Corporation

and

Sanders Associates, Inc., - a Corporation

* * * *

ERNEST W. NOLIN & ASSOCIATES

General Stenographic Reporters

369 ELGIN AVE., MANCHESTER, N. H. 03104

TELEPHONE: 623-6906

H. STUART CUNNINGHAM, CLERK
UNITED STATES DISTRICT COURT

OCT - 8 1976

ORIGINAL

Deposition of RALPH H. BAER taken by Subpoena and notice at the offices of Sanders Associates, Inc., Daniel Webster Highway South, Nashua, New Hampshire, on November 24, 1975, commencing at ten-thirty o'clock in the forenoon.

APPEARANCES

For Midway Manufacturing Company and Bally Manufacturing Company:

Donald L. Welsh, Esquire and A. Sidney Katz, Esquire

For Magnavox Company:

Thomas A. Briody, Esquire

For Sanders Associates and Magnavox Company:

James T. Williams, Esquire and Theodore W. Anderson, Esquire

For Atari, Inc.:

Thomas O. Herbert, Esquire

Stenographer:

Charlotte C. Rossati

Discussion off the record. That includes

any materials that were in Sub-section C of this

book which on an index in the first divider sheet of Mr. Baer.

MR. WELSH: This is the continuing examination of Mr. Baer.

MR. WILLIAMS: I wonder if we could have that notebook that I believe Mr. Seligman testified came from Mr. Baer. Last week I believe there was some testimony that no material had been removed from a black notebook bearing the title, "Video Arcade Machine Data File R. H. Baer." I believe that some material which was considered not called for by the Midway interrogatories or the request for production of documents has been removed from that book, and I just wanted to correct the record as to that portion.

MR. WELSH: Surely.

MR. WILLIAMS: I don't know what section it came from, but it was certainly not C. It's not described in the description there given for

MR. WELSH:

Has any of that material which was removed been identified as being withheld because of claim of attorney-client privilege or work product?

MR. WILLIAMS: No, it has not.

MR. WELSH: Did that include any materials that were in Sub-section C of this book which on an index on the first divider sheet marked A states next to C, "Correspondence of Briody, Etlinger, et cetera, all legal action related notes."

MR. WILLIAMS: No, the material was not in Sub-section C.

MR. WELSH: And who removed that material?

MR. WILLIAMS: I removed it.

any investigation of MR. WELSH: What Sub-section was it in? that such gases might be used in patents?

MR. WILLIAMS: May I talk with the witness for a minute? WILLIAMS: No, sir. it did

MR. WELSH: Surely.

MR. WILLIAMS: I don't know what section it came from, but it was certainly not C. It's not described in the description there given for

Section C.

MR. WELSH: Was it removed from any of these sections that have identifications next to the letters?

MR. WILLIAMS: Mr. Welsh, we are not sure what section was removed. We can check during the lunch break and compare the material with the book and see if we can make some kind of further determination as to what section it was.

MR. WELSH: Did it relate to the patents at suit?

MR. WILLIAMS: No, sir, it did

A. not.

Q. What is the notebook? MR. WELSH: Did it relate to

A. any investigation of games of others to determine the possibilities that such games might come under the

Q. patents?

A. Nine.

MR. WILLIAMS: No, sir, it did

A. not.

A. I did.

MR. WELSH: Did it relate to

Q. video games?

MR. WILLIAMS: Yes, it did relate

A. to video games.

RALPH H. BAER, Continued

called as a witness, having been previously duly sworn,
was examined and further testified as follows:

(Interrogatories by Mr. Welsh.)

Q. Mr. Baer, I hand you what Mr. Seligman produced on behalf of Sanders which was identified, I believe, as a notebook obtained by you containing some loose materials in front and other materials which are on the ring binders in the notebook. Do you recognize this notebook?

A. Yes, I do.

Q. What is that notebook?

A. Actually a collection of data sheets obtained at 1972 and '73 M.O.A. shows. Correction. '73 - '74.

Q. Whose notebook is it?

A. Mine.

Q. Who collected the material in the notebook?

A. I did.

Q. Were you directly responsible for placing all of the items that are in the book in the book?

A. Yes, I was. A name designation.

Q. Did anybody else place any items in the book?

A. No, sir.

Q. Referring to the inside divider with the designation A, there appears a signature at the top of that divider, is that your signature?

A. It's my name, but not my signature.

Q. Did someone else write that signature there?

A. No. I wrote it. It's in block letters. I don't sign anything that way. MR. WILLIAMS: If you will.

Q. But you did place your name there? By block letters.

A. Yes. the royal edition

Q. What is the number beneath your name there? 885-2450?

A. My Sanders' telephone number.

Q. Does that page or divider contain other writings?

A. Other than what, Mr. Welsh?

Q. Other than your name and the phone number?

A. Yes. An index of contents.

Q. Did you prepare and place that index there?

A. Yes, I did.

Q. Now, there appear to be a number of alphabetical letters, some with designations and some without. Now, does

A. the letter A have a designation?

Q. By a designation you mean the description following

A. it?

A. MR. WILLIAMS: I object. The

A. document speaks for itself.

Q. (By Mr. Welsh) What is that designation?

A. The designation is "Coin Industry/Arcade Video Press

Releases."

Q. Why did you prepare the index?

Q. When did you start this? MR. WILLIAMS: If you know,

of materials in it? THE WITNESS: By index you

A. I mean the total sheet?

Q. (By Mr. Welsh) Yes, the material marked with the

A. heading "Index."

A. To make it possible to find things within the N.O.A. binder, is it not?

Q. How did you happen to begin to collect materials

Q. in this binder? your position was at the time?

A. Because materials relating to TV games were of

A. interest to me, by position?

Q. Were you given an assignment by anyone which led to

A. your beginning to collect the materials in the binder?

A. Yes.

Q. Who gave you such an assignment?

A. I can't answer that specifically.

Q. Can you answer it generally?

A. Yes. Under research and development funding ^I followed _^

the progress of the field in general and as part of

that visited the M.O.A. shows.

Q. When you say field, what do you mean?

A. Video games.

Q. When did you start this notebook and the collection of materials in it?

A. I don't know. Near the beginning of the year?

Q. Was it prior to the 1973 M.O.A. show?

A. I don't know. Duties during this period as Chief

Q. It does contain materials relating to the '73 M.O.A.

A. show, does it not?

A. Yes, it does.

Q. Do you know what your position was at the time that you started collecting materials in this notebook?

A. What do you mean by position?

Q. Your job assignment at Sanders?

A. I was then Chief Engineer of Electro-optics Division.

28 Q. During what period of time did you hold that
position?

A. Roughly '72 to '74.

29 Q. Do you remember what part of '72 you started in
that position?

A. No.

30 Q. Or when in '74 that you were no longer in that
position?

A. About November, '74.

31 Q. Do you have any general idea as to when in '72 you
started in that position? Near the beginning of the
year? Middle of the year? The end of the year?

A. In the middle of the year.

32 Q. What were your duties during that period as Chief

Engineer of the Electro-optics Division?

A. I was responsible for supervision, engineering develop-
ment, and several programs.

Q. Whom did you report to?

A. ^{The}
^ Division Manager.

Q. Who was that?

A. Dr. Rubin.

Q. Who did he report to? MR. WILLIAMS: I think Mr. Baer

A. Harold Pope, Executive V.P. at the time.

Q. Was the Electro-optics Division at that time a part of any larger group or sub-division of the company?

A. Federal ~~Assistance~~ ^{SYSTEMS} Group.

Q. How many people did you have working under you as Chief Engineer?

A. None in that capacity. Not by assignment.

Q. Did you have any people working for you in any other capacity?

A. Yes.

Q. What other capacity?

A. As Group Leader of the ^eLaser Systems Group.

Q. I beg your pardon?

A. I was addressing-----

Q. I think that your remarks should be addressed to

the Reporter so that they can be made a part of the record.

A. Okay. It was.

Q. Would you tell us what you were saying so the Reporter can transcribe it.

A. "?? - ??."

MR. WILLIAMS: I think Mr. Baer

Q. was just expressing his wonderment with the relevancy of all this testimony.

A. MR. WELSH: Well, I trust that you don't have any question about that?

A. MR. WILLIAMS: Oh, I have a lot of questions about that.

MR. ETLINGER: I have one observation. I am sitting here and I can't hear anything. Everybody is sinking lower and lower and lower until I can't distinguish anything. I would appreciate it if somebody would try to speak up.

MR. WELSH: I will do that.

the question, please, MR. ETLINGER: Thank you, sir.

MR. WELSH: I apologize for

not doing it earlier.

stands.
Q. (By Mr. Welsh) Was the Laser Systems Group a part of the Electro-optical Division?

A. Yes, it was.

Q. And during what period were you the leader of the Laser Systems Group?

A. '72 - '73.

After termination of the title of Chief Engineer.

45 Q. How many people were under you?

A. Roughly, twenty.

46 Q. Were they engineers?

A. For the most part, yes.

7 Q. During the other portion of your time when you had the title of Chief Engineer but did not have any people under you in that capacity, did you have any other assignment?

MR. WILLIAMS: I object to the question. I don't think he ever testified where there was such a period of time.

MR. WELSH: Would you read the question, please.

(Whereupon, the pending question was read back by the Reporter.)

MR. WILLIAMS: My remark still stands.

MR. ETLINGER: What were they?
I didn't hear those either.

(Whereupon, the above-mentioned remarks were read back by the Reporter.)

the report. If you wish to ask any more questions, you may go ahead and ask them. In answer the Baer testified that he had the title of Chief Engineer

from the middle of 1972 until November of 1974, and

he testified that during that time he had no people

reporting to him as chief engineer but he did have

people reporting to him in another capacity as leader

of the Lasar^e Systems Group, and he said that that

was during the period 1972 to 1973, leaving some

other time during the period of the middle of '72

until November of '74 when he was not leader of

the Lasar^e Systems Group. And it is during that

other time that I am directing my question. And

I think your objection was not well taken. I would

appreciate not being interrupted with inaccurate

observations as to what he has testified to. I think

we are wasting a lot of time here. There was

another period of time obviously, at least during

1974, when he was not leader of the Lasar^e Systems

Group when he was chief engineer.

Do you wish to comment?

MR. WILLIAMS: Mr. Welsh,

I have a perfect right to record my objections for

the record. If you don't like those objections,

you may go ahead and ask the witness to answer the

from the middle of 1972 to November of 1974?

question.

Q. (By Mr. Welsh) Do you understand the question?

MR. WILLIAMS: Would you like to read the question back, please, Miss Reporter?

(Whereupon, the pending question was read back by the Reporter.)

THE WITNESS: Yes.

Q. (By Mr. Welsh) What was that?

A. As chief engineer, I was responsible for monitoring engineering activity on a number of classified military programs in the division. *

Q. Has the classification on any of those military programs been removed?

A. No, sir.

Q. What were the several programs in which you supervised engineering development in your position of chief engineer?

A. As I stated, Mr. Welsh, they are military programs.

Q. Those are the programs which you spoke about?

A. That is correct.

Q. Did you have any other assignments during that time you were chief engineer of the Electro-optics Division from the middle of 1972 to November of 1974?

A. Yes, Mr. Welsh. You stated that you were...

Q. What were they? ... the analysis by...

A. In '74 I was engaged in an analysis of the coin-operated TV game business.

Q. Did you undertake that analysis at the direction of someone?

A. Yes.

Q. Whose direction?

A. ^{The} Corporate IR&D Office.

Q. Who in the Corporate IR&D Office directed you to make the analysis?

A. May I ask a question?

Q. I really don't think it's appropriate. If you

A. don't understand the question, then perhaps we can rephrase it. Otherwise, you should answer the

question.

A. I have difficulty, Mr. Welsh, with the term "directing

Q. the analysis."

A. As used and provided some MR. WILLIAMS: If you don't

Q. understand the question, Mr. Baer, just say so, and

we will ask Mr. Welsh to rephrase it.

THE WITNESS: Yes.

59 Q. (By Mr. Welsh) You stated that you were directed to do it; that is, make the analysis by the Corporate R&D Office, and I am just asking who in that office directed you to do it or gave you the assignment?

A. The corporate director, of course, is Herbert Campman. What I meant by my question, Mr. Welsh, ^{is} that direction [^] does not necessarily come from Campman. *

60 Q. Did it come from somebody else?

A. It comes from the originator in most cases, which in this case is myself.

61 Q. Well, how did it come about? Could you describe the circumstances under which you undertook the analysis of the coin-operated TV game business in 1974?

A. I suggested that it might be an appropriate business for us to get into.

2 Q. And you suggested that to Mr. Campman?

A. To Mr. Campman.

Q. And what did he do when you made that suggestion?

A. Agreed and provided some funding to pursue the matter.

Q. (See question separately transcribed on page designated "Confidential under Protective Order.")

"Were you given any limitations on the pursuit of the matter?"

MR. WILLIAMS: Mr. Welsh, I object to any further questions along this line as being irrelevant to the issues in this lawsuit and also perhaps as including information or seeking information which is confidential to Sanders Associates. And I think if you are going to pursue that line of questioning, we should agree that it will be taken under the Protective Order previously introduced.

Confidentiality.

MR. WELSH: Well, I think that rather than making a general agreement to that effect, if any particular question has any confidential aura about it that you make a specific objection at that time.

MR. WELSH: I am not asking about future plans. I think the question is relevant. It relates to the subject matter here, the duties of Mr. Baer with respect to it, and therefore I leave-- are directly related to that, and they have not elicited any. Is there any question outstanding?

MR. WILLIAMS: Well, Mr. Welsh, you requested that I not interrupt your interrogation unduly. I don't want to do that except record objections.

If you want me to interrupt every time you ask a question, along this line, to which the response may include confidential information, then I will just have to do that.

MR. WELSH: I don't know what confidentiality you are concerned with. There certainly hasn't been any approach that I am aware of yet to anything that might have any normal connotation of confidentiality.

MR. WILLIAMS: I think the interior operations of Sanders Associates and any business plans they have are obviously confidential.

MR. WELSH: I am not asking about future plans. I am asking the circumstances under which this notebook which you provided to us under our request came about. And I think these questions are directly related to that, and they have not elicited any information about future plans of the company.

MR. WILLIAMS: Well, I believe that the witness testified concerning some possible aspects of the business that his employer may wish

to get into, and I think that is very much--very confidential information. And I will designate the answer as being confidential under the Protective Order.

MR. WELSH: The answer has already been given and recorded.

MR. WILLIAMS: The answer to your subsequent question.

MR. WELSH: To the last question?

MR. WILLIAMS: Yes, sir.

MR. WELSH: Do you remember the question?

THE WITNESS: No, sir.

MR. WELSH: Would you read the question, please?

(Whereupon, the pending question was read back by the Reporter.)

MR. WILLIAMS: Miss Reporter,

I designate that portion of the transcript to be that you give me much choice, then, Mr. Welsh, treated as confidential. That means that it has to be transcribed separately, kept away from the main

body of the transcript, and designated "Confidential Under Protective Order" on the front page.

MR. WELSH: I haven't agreed to accept this answer under Protective Order.

MR. WILLIAMS: I don't think you have to agree, Mr. Welsh. The Protective Order merely requires designation. It doesn't require acceptance.

MR. WELSH: Well, I will

state if the witness answers a question, I am not agreeing that it should come under the Protective Order.

Now, you may instruct him not to answer, if you wish, in view of my refusing to

disagree. But if you permit him to answer and I have not agreed to accept it under the Protective Order, I do not believe that it is thereby put under the Order.

MR. WILLIAMS: I don't see that you give me much choice, then, Mr. Welsh, other than to instruct the witness not to answer.

I believe we entered the Protective Order just to

avoid disputes like this.

MR. WELSH: That is true. But there has to be an area of reasonableness as to what is confidential and what is not. And for him to express the limitations on his assignment, I don't see that that might be confidential or have a basis. And furthermore, I am not aware--I haven't looked at the Protective Order lately--but I am not aware that it applies to testimony in addition to documents.

MR. WILLIAMS: I believe it applies to any information.

MR. WELSH: I believe you had a copy of the Protective Order the other day. I wonder if I could see it.

MR. WILLIAMS: Well, Mr. Welsh, the copy of the Protective Order that I have says, "As to any document or portion thereof, or other form of evidence contemplated under Rules 26 through 37 of the Federal Rules of Civil Procedure," et cetera, which clearly means to me deposition testimony.

MR. WELSH: Well, that Protective

Order was entered into with respect to a production of documents, and the remainder of the order deals with documents or portions thereof coming under the Order. The order of Mr. Baer is that if we are being subject to the Order, then I agree that they are subject to the Order. But I do not believe that the Order requires that we accept documents which have been marked Confidential simply because you have to designate them confidential. And if you are going to instruct the witness not to answer on that basis, then we will simply have the question marked and have the matter decided by an appropriate authority at a later time.

MR. WILLIAMS: Mr. Welsh, I think that is absolutely a false statement. The Protective Order requires that the producing counselor can designate the document as confidential, and it sets forth that that designation will not change the status of the document. There is no requirement in that Protective Order that any information

produced thereunder be accepted or rejected by confidence by the inspecting counsel.

MR. WELSH: Well, I do not agree to take the answer of Mr. Baer to that last question as being subject to the Protective Order. If you wish to instruct him not to answer, I suggest you do so and we will proceed with the examination.

MR. WILLIAMS: I think we have another little bit more basic question to deal with here. We have produced a number of documents under the Protective Order. Are you not agreeing that all the documents that Sanders Associates has produced has been marked in the way which we agreed are produced under the Protective Order? ed games business?

A. Yes.

MR. WELSH: I don't think that anyone could reasonably interpret that interpretation of my remarks. I was directing my remarks solely to the answer of his question, and there was not any question to any document or applicability to the order of the other documents that you have produced. When you produced them, it was specifically with the

understanding that they would be subject to the Protective Order, and I agreed to that.

MR. WILLIAMS: All right, fine.

Mr. Welsh, what do you interpret the phrase "or other form of evidence contemplated under Rules 26 through 37 of the Federal Rules of Civil Procedure"?

MR. WELSH: I don't intend to argue this matter any further at this time.

MR. WILLIAMS: All right. I instruct the witness not to answer the question.

Q. (By Mr. Welsh) Were the documents that were taken out of this notebook by Mr. Williams related to this question of Sanders going into the coin-operated games business?

A. Yes.

Q. Did Mr. Campman give you any instructions with respect to the analysis that you were going to undertake of the coin-operated business?

MR. WILLIAMS: Mr. Baer, I think you should understand that if in response to any of Mr. Welsh's questions you feel the answer will

- A. divulge information which is confidential to Sanders Associates you should merely state that for the record prior to giving your answer.

THE WITNESS: I thank you.

In response to your question, Mr. Welsh, the answer would involve details which relate to Sanders' intention or lack of intention to go forward in this business area.

- Q. (By Mr. Welsh) I don't believe I understand how it would be possible, because I simply asked if you were given any instructions, and the question can be answered yes, you were given instructions, or not, you weren't. I did not ask you what the instructions were.

A. All right, sir. The answer is yes.

- Q. Were those instructions in written form, or were they given to you orally?

A. Orally.

- Q. By Mr. Campman?

A. Yes.

- Q. Did you make any notes with respect to those instructions?

A. No, sir.

71 Q. Did those instructions include any which were not of a confidential nature?

A. No, sir.

72 Q. Did you make any proposals or give any memorandum to Mr. Campman in connection with this analysis of coin-operated TV game business?

A. Yes.

73 Q. Was it a written memorandum?

A. Yes.

74 Q. Was it a request for funding?

A. Yes.

75 Q. Has that been produced?

A. I do not know.

76 Q. Was it among the documents which were in the notebook when you had it but which were removed by Mr. Williams?

A. I don't know, sir.

7 Q. During what period of time did you work in furtherance of this assignment to analyze the coin-operated TV game business?

8 A. During the middle and through the end of '74. And

the first two or three months of '75.

Q. Did you make any reports to Mr. Campman of the progress of your analysis?

A. Yes.

Q. How did you make such reports?

A. Orally and in writing.

Q. How many such reports did you make?

A. I don't recall, Mr. Welsh.

Q. Did you make them on a regular basis?

A. No, sir.

Q. What determined when you did make them?

A. ^{Mutual} ~~Neutral~~ agreement between Mr. Campman and myself.

Q. And what was that agreement?

A. That a report was due.

Q. You mean when he wanted a report, he would tell

you that he wanted a report?

A. In effect.

Q. Did you keep copies of reports which were in

writing? ~~I don't recall this. I don't recall.~~

A. Yes, sir. ~~Does this notebook relate?~~

Q. ~~I mentioned previously that most of the documents~~ Where did you keep those copies?

A. In my file, office file, sir. '73 and '74.

87 Q. Other than in this notebook?

A. Yes.

88 Q. Were they also kept in this notebook?

A. No, sir.

89 Q. Why were they not included in this notebook?

90 A. Because I had not put them there.

Q. Did you have a reason for not putting them in this notebook?

A. I chose to put them elsewhere.

91 Q. What determined what documents you did put in this notebook?

A. I believe that various notes in my possession moved back and forth between notebooks on the basis of need.

A. I don't recall, Mr. Welsh.

92 Q. The basis of need for what?

A. Action at the moment.

93 Q. Were such reports ever a part of this notebook?

A. No, sir.

94 Q. You may have answered this, I don't recall. To what do the documents in this notebook relate?

A. I answered previously that most of the documents related to the M.O.A. show of '73 and '74.

Q. You say most of them. What do the other relate to? or who would know?

A. Some of the documents are a collection of newspaper and magazine articles related to the TV coin-operated amusement industry.

Q. Do any of the documents relate to anything else besides the M.O.A. shows of '73 and '74 or newspaper and magazine articles related to the coin-operated and amusement devices? are relating to (corporate file)

A. Yes, they did. corporate file. There can be no

Q. What other subjects? are relating to over. They are already

A. Material removed by Mr. Williams.

Q. Any other subjects? were? In the corporate file?

A. I don't recall, Mr. Welsh.

Q. Were the other files in which you placed the reports produced for Mr. Williams' determination of whether

A. they should be brought here or not?

A. I do not know, Mr. Welsh. These reports to Mr. Campbell,

Q. Well, did you produce them for Mr. Williams?

A. I don't recall, Mr. Welsh.

Q. They were your files, though?

A. Well, certainly. MR. WELSH: Could you read the

102 Q. So that if they had been produced, you would be the person who would know? (Whereupon, the witness said that he was not sure of the exact date.)

A. Well, certainly.

103 Q. And you don't recall?

(By Mr. Welsh) Are they still there?

A. I do not recall specifically turning those files

A. I'm not sure, but I think

over.

104 Q. You don't recall whether you turned your personal

Q. Did you turn them over to anybody else such as Mr. Seligman?

A. Those files, I believe, are relating to Corporate IR&D records in the corporate file. There can be no

A. I don't recall all files relating to the question of my turning it over. They are already there. I am aware of it, I am not certain, Mr. Seligman

105 Q. Is that where they were? In the corporate file?

A. That's where they are.

106 Q. Do you maintain any files personally other than those over simply because they are part of a body of in the corporate file?

A. Yes, I do.

107 Q. Were they included in-- Those reports to Mr. Campman, people who are involved, were copies of them included in your personal files?

A. Mr. Welsh, I have a problem with that question. Would you go through that again?

(By Mr. Welsh) I believe you stated that the person

MR. WELSH: Could you read the

question, please.

(Whereupon, the pending question was read back by the Reporter.)

THE WITNESS: They were.

THE WITNESS: They were.

Q. (By Mr. Welsh) Are they still there?

A. I'm not sure, Mr. Welsh.

Q. You don't recall whether you turned your personal

files over, and that is, the files with those

reports over to Mr. Seligman or Mr. Williams or

anyone else connected with this matter?

A. I turned over all files pertaining to TV games

that I am aware of. I am not certain, Mr. Welsh,

whether those files which pertained to Sanders'

investigation of possible business venture into the

Q. (By Mr. Welsh) Any other business that pertained to

TV amusement game area were specifically turned

over simply because they are part of a body of

area of business for Sanders'

reports that gets circulated in the standard

A. No, sir.

company fashion and are already in the files of those

people who are involved.

MR. WELSH: Off the record.

A. No, sir.

(Short recess.)

Q. I believe you stated that you prepared the index

Q. (By Mr. Welsh) I believe you stated that the period

during which you worked on the analysis of the coin-operated TV game business extended from the middle and end of '74 into the first two or three months of 1975. Have you worked on that project since that time?

A. No, sir.

Q. Do you know whether that assignment was turned over to anyone else?

A. It was not, sir.

Q. Was information obtained by you during that analysis used for any other purpose?

MR. WILLIAMS: I object to the question as vague. Any other----

Q. (By Mr. Welsh) Any other purpose than analyzing the coin-operated TV game business as a potential area of business for Sanders?

A. No, sir.

Q. Was it used in connection with these lawsuits in any way?

A. No, sir.

Q. I believe you stated that you prepared the index on the divider card marked A in this notebook. There

is no designation of any subject matter next to the letter B, is there?

A. No, there is not.

Q. Why does that letter have no designation?

A. Because there's nothing that is filed under that designation.

Q. You intend to save it in case you would have a future subject matter?

A. I don't know, Mr. Welsh.

Q. What is the designation of the subject matter next to the letter C?

A. Correspondence with Tom Briody, Lou Etlinger, et cetera.

Q. Are there any documents in the section of-- There is a section of the notebook designated C, is there

not?

A. Yes, there is.

Q. Are there any documents in that section?

A. I don't know.

Q. Will you look, please. MR. WELSH: Could I have that?

A. There are none.

Q. Were there any documents in that section when you

turned the notebook over to Mr. Williams or Mr.

Seligman or someone else?

A. No, there weren't.

Q. Have there ever been any documents in that section?

A. Yes, there were.

Q. When were these placed in that section?

A. Sometime during the course of '73 and '74.

Q. How many of such documents were there?

A. I don't recall.

Q. Were there very many?

A. No, sir.

Q. Did you remove those documents?

A. Yes.

Q. When did you remove them?

A. I don't recall.

Q. Why did you remove them?

A. Because I turned all documents related to the

legal situation over to the patent office files

many, many months ago.

A. I don't recall specifically. MR. WELSH: Could I have that

answer, please?

(Whereupon, the answer was read back by the Reporter.)

130 Q. (By Mr. Welsh) What do you mean by legal situation?

A. Any memos or correspondence which I might have been copied on related to Sanders' Magnavox license.

131 Q. That was the legal situation you referred to, the Magnavox-Sanders license?

132 A. That is right, sir. memos or correspondence relate to

133 Q. Any other legal situation involved?

A. No, sir. believe so, Mr. Welsh.

134 Q. Were these lawsuits involved? tion of the documents

A. No, sir. removed from this section and turned

135 Q. Why did you turn such memos or correspondence which

A. you were copied over to and relating to the Magnavox-

136 Q. Sanders license over to the patent office files?

A. Because I was requested to turn over all material

137 Q. in my files. given any assignment to examine coin

138 Q. By whom were you so requested? reports of them for

A. Mr. Etlinger determining whether they infringed

139 Q. Did he identify the subject matter of documents that

A. he wanted to be turned over to him?

140 A. I don't recall specifically.

141 Q. Were you copied frequently on memos or correspondence

142 Q. relating to Magnavox-Sanders license?

A. No, sir. Infrequently. Mr. Sanders.

Q. Did any of those memos or correspondence relate to

A. sub-licensing by Magnavox; that is, the licensing of other people?

A. I don't recall, Mr. Welsh. and patent office.

Q. Did any of those memos or correspondence relate to infringement of the Sanders patents?

A. I don't believe so, Mr. Welsh. times?

Q. Did you retain any identification of the documents which you removed from this section and turned them over?

A. No, I did not.

Q. Did any of the documents seek information from you?

A. No, they did not, Mr. Welsh.

Q. Were you ever given any assignment to examine coin-

A. operated video games and make reports of them for

Q. purposes of determining whether they infringed any

A. of the Sanders patents?

A. Yes. you say conference? Plural?

Q. When was that?

A. At the time of the 1973 M.Q.A. show, on page designated

Q. Who gave you that assignment? (Order?)
What was the assignment and did you also find:

A. I don't recall specifically, Mr. Welsh.

45 Q. Well, where did the assignment come from?

A. Generally Sanders Associates.

46 Q. Any particular department?

A. Well, Corporate IR&D Office and patent office.

47 Q. By both?

A. Yes.

48 Q. Simultaneously or at different times?

A. I don't know, Mr. Welsh.

49 Q. Who in the Corporate IR&D office gave you the assignment?

A. Mr. Campman.

50 Q. And who in the patent department?

A. Mr. Etlinger.

51 Q. How were these assignments given?

A. Orally.

52 Q. By telephone or during a conference in person?

A. During personal conferences.

53 Q. Did you say conferences? Plural?

A. Yes, sir.

54 Q. (See question separately transcribed on page designated

"Confidential Under Protective Order.")
"What was the assignment which you were given?"

MR. WILLIAMS: I object to the question as calling for information which may be subject to valid claim of attorney-client privilege.

MR. HERBERT: I'm sorry. I

didn't hear you. Of the 1975 M.C.A. show?

MR. WILLIAMS: Valid claim of attorney-client privilege. And I instruct the witness not to answer the question.

imagine.

MR. WELSH: Mark that.

Q. (By Mr. Welsh) Did you make notes at the time of

A. the assignment?

A. Yes, sir. Was out in Chicago?

Q. Did you keep those notes?

A. Yes, sir. Now why you were copied on notes in

Q. Where are they now? Prior to the McGraw-Hill case?

A. In front of a us in the notebook, correspondence

Q. Would you refer to them, please? Of this case?

A. Yes, sir.

Q. Now, I ask for notes that were kept regarding the

A. conferences at which you were given the assignments?

A. I'm sorry, Mr. Welsh, I misunderstood. I do not have

notes on the conferences. I had the TV news follow-

160 Q. Now, at the time that you were given that assignment,
do I understand you correctly that you were chief
161 engineer of the Electro-optics Division?

A. '74-- That is correct.

161 Q. What was the date of the 1973 M.O.A. show?

A. I think it was November first, second, third. That's
162 incorrect, Mr. Welsh. Looking at the memo, it's
on November nine and ten, and eleven, I would

A. imagine.

162 Q. Of 1973?

A. Seventy-three.

163 Q. And that was out in Chicago?

A. Right.

164 Q. Do you know why you were copied on memos or
correspondence relating to the Magnavox-Sanders
license, that is, the memos and correspondence
which were removed from Section C of this notebook?

A. Yes, I do.

165 Q. Why?

A. Because I'm an interested party.

166 Q. Interested in what respect?

A. In the sense that I originated the TV game activity

Q. Now, at the time that you were given that assignment, do I understand you correctly that you were chief engineer of the Electro-optics Division?

A. '74-- That is correct.

Q. What was the date of the 1973 M.O.A. show?

A. I think it was November first, second, third. That's incorrect, Mr. Welsh. Looking at the memo, it's on November nine, and ten, and eleven, I would

A. imagine.

Q. Of 1973?

A. Seventy-three.

Q. And that was out in Chicago?

A. Right.

Q. Do you know why you were copied on memos or correspondence relating to the Magnavox-Sanders license, that is, the memos and correspondence which were removed from Section C of this notebook?

A. Yes, I do.

Q. Why?

A. Because I'm an interested party.

Q. Interested in what respect?

A. In the sense that I originated the TV game activity

at Sanders Associates and have been following it
with interest ever since.

167 Q. At the time you received those memos and correspondence,
168 did you have any official assignment with respect to
TV games? the end of 1971 and the first of 1972

A. I don't recall, Mr. Welsh. The answer is no, sir.

Q. Do you have any official assignment with respect to
to TV games today?

A. Yes. you had any official assignment relating to
TV game-related activities MR. WILLIAMS: I have to
object. The question is vague.

A. Yes. THE WITNESS: May I respond
to----

the question was answer MR. WILLIAMS: Do you under-
stand the question? assignment on a contract.

THE WITNESS: Well, I believe
I do, but I would like to amend my previous answer.
I have already testified before that throughout
that period we were at Sanders Associates, certainly
I, were engaged in an investigation of Sanders'
possible entry into the TV game business. So
clearly I was involved in TV games during that period

of time.

169 Q. (By Mr. Welsh) I believe you said----

170 A. This is '73.

171 Q. Yes. And I believe you said the analysis took
place at the end of '74 and the first of '75?

172 A. I'm sorry, I confused you. The answer is no, sir,
I was not at the time engaged in any TV game-related
activities.

173 Q. Have you had any official assignment relating to
TVgame-related activities since the first two or
three months of 1975?

174 A. Yes.

MR. WILLIAMS: I believe
the question was answered.

175 Q. (By Mr. Welsh) What assignment or assignments?

176 Q. Just please. MR. WILLIAMS: Again, Mr.
Baer, if you believe that this response to this
question would involve confidential information,

177 A. don't hesitate to say so.

178 Q. THE WITNESS: Well, the
response to the question would involve details that
have to do with corporate decision on part of Sanders

Associates whether or not to enter the TV game business.

73 Q. (By Mr. Welsh) When were you given that assignment?

A. It is a remnant responsibility left over from the activity through March or so of this year.

4 Q. Did it involve any new instructions than those which you received for the previous analysis?

A. No, sir.

75 Q. Beg your pardon? thing to do with TV games from that

A. No, sir. The time in the middle of 1974 when you

76 Q. Have you had any other assignment relating to TV

A. games than the analysis with respect to Sanders

Q. going into the TV game business since the middle of 1974 when you were given that assignment of analysis?

A. There were no other assignments, sir.

77 Q. Just prior to the middle of 1974 when you received that assignment, did you have any assignment with respect to TV games?

A. No, sir.

178 Q. When was the last time prior to the middle of 1974 when you were working under an assignment relating to TV games?

A. I don't recall, Mr. Welsh.

179 Q. Do you recall generally? I believe you stated that
you became chief engineer of the Electro-optics
Division around the middle of 1972?

A. Yes.

180 Q. Did you have anything to do with TV games at that
time?

A. No, sir.

181 Q. Did you have anything to do with TV games from that
time up to the time in the middle of 1974 when you
were still chief engineer?

A. No, sir.

182 Q. Of the Electro-optics Division?

MR. WELSH: Have those
documents which Mr. Baer removed from Section C
of this book, which he stated were memos or
correspondence on which he was copied, related to
the Magnavox-Sanders license, been identified for us,
Mr. Williams, as subject to the attorney-client
privilege or work product?

A. I believe so. MR. WILLIAMS: We have
taken all the documents which we received relating

to the Magnavox-Sanders agreement or relating to this general subject matter and analyzed them to determine whether they came within your request for production of documents and produced or identified those which we thought were called for. I cannot at this time specifically state whether the documents that were taken from this notebook were among the documents that were called for by your interrogatories or request for production.

MR. WELSH: Do the identifications of the documents which you have given indicate the document list on each one of them?

MR. WILLIAMS: I'm sorry, Mr. Welch, I don't know which documents are being referred to, and I can't answer you as those which

will not produce because MR. WELSH: Well, I am planning to refer specifically to ones on which Mr. Baer was, as he put it, copied. WILLIAMS: Will you

3 Q. (By Mr. Welsh) What did you mean when you said documents on which you were copied, Mr. Baer?

A. I believe that most, if not all, those documents were copies of letters from Magnavox to Sanders

reporting on royalties which, I might add, I got purely for curiosity reasons and no official capacity.

184 Q. Were there any subjects other than royalties dealt with in those documents about which we are speaking which were removed from Section C of the notebook?

A. I don't think so, Mr. Welsh.

185 Q. Were you indicated among those persons in the distribution of such documents?

A. No, sir.

MR. WELSH: Mr. Williams, are the documents of Sanders which are identified in either the answer to Midway Interrogatory 12 or the responses to our request for admissions--I'm sorry--request for documents as those which you will not produce because of claim of attorney-client privilege or work product in this room?

Mr. WILLIAMS: Will you read back the question, please?

(Whereupon the question was read back by the Reporter.)

and was asked to do that.

MR. WILLIAMS: No, Mr. Welsh, MR. WILLIAMS: I am sorry.

they are not in this room. They are in this building. Those documents in the possession of Sanders are in this building and are available.

MR. WELSH: And do I understand correctly that they were not brought here because you are questioning the subpoena?

MR. WILLIAMS: Well, we are questioning the subpoena, yes.

MR. WELSH: And is that the reason they are not in this room?

MR. WILLIAMS: That is one of the reasons they are not in this room, yes.

MR. WELSH: Are there any other reasons?

MR. WILLIAMS: Mr. Welsh, if you are somewhat confused. If you are seeking to find out whether we will produce some of those documents for examination of witnesses by you relating to those documents, as we stated, last week, we will be willing to do that.

MR. WELSH: I understand you were willing to do that.

MR. WILLIAMS: I think we can

work that out on a document-to-document basis.

MR. WELSH: Very well. Then I would like to request that all of those documents be available in this room, and I would also like to request further that any of those documents which indicate that Mr. Baer is either a sender or a recipient or one indicated as being copied on the documents, be identified, so that if it becomes desirable to have it present during his examination or any of those present, it would be here. If you rely on his memory as to which of the documents that you have identified by your identification, I don't think would be satisfactory.

MR. WILLIAMS: I am getting somewhat confused. If you are speaking of the documents which were in this notebook, I think Mr. Baer said that those were royalty reports and those had been produced. The original of those documents had been produced.

MR. WELSH: I realize he said kind of thing we are in an hour. That. He thought they were. But earlier he said memos and correspondence relating to the Magnavox-

Sanders license. Now, perhaps there were others. And I am not speaking only of those; I am speaking of any of the documents which have not been produced but indicate that Mr. Baer either sent or was the addressee or was indicated as being among the distribution or receiving a copy of the document.

MR. WILLIAMS: That's liable to take a good deal of work to go through all of those documents and determine which ones fall within those particular categories.

MR. WELSH: Let me say this. I expect to make a similar request with respect to every witness that we may be examining here. If you wish to cogitate over the matter over lunch, we can break now. I think it's an appropriate time to break.

MR. WILLIAMS: Well, I just want to say one more thing on the record. It's the kind of thing we can't do in an hour or so to separate the documents out. It will take a longer period of time than that. You have asked us for

information on these documents before, and we have given you the information that you requested, and we don't want to be unreasonable in giving you information, but I think we made an effort to supply what you requested before.

MR. WELSH: Well, I expect to request the information and the documents called for in the subpoena and, at the very least, that all of those documents be produced here. And if necessary, you can go through them one by one while we are sitting here. But I feel definitely entitled to have those documents.

And if you wish, I can have the witness go through them one by one and tell me whether he ever saw it or received a copy of it and so forth. I think we probably could assume that-- Well, we really can't make an assumption, but at the very least I would like to know if there are any of those, which ones they are that indicate he either sent, received a copy of, or was the addressee of.

MR. WILLIAMS: Well, as we have

indicated before, we consider that subpoena to be a nullity. We are under no obligation to produce any documents in response to it. But we do want to expedite matters as much as we can, and I think we will take your suggestion and consider it over lunch and consider what we will do to speed things up.

MR. WILLIAMS: As I was

MR. WELSH: Very well. Let's adjourn for lunch.

(Luncheon recess.)

MR. WELSH: Mr. Williams, you were going to reply to a request.

MR. WILLIAMS: Yes. As I stated during lunch, we have supplied you information as to the documents being withheld on the grounds of attorney-client privilege in response to your interrogatories and your request for production of documents.

But more specifically, as I understand it, you now desire to know those persons listed as receiving copies of each of the documents being withheld.

the other information then we can ask

We are willing to supply you with that information.

However, it is going to take some time to go through all the files and get those documents out and find out who is indicated as receiving copies.

MR. WELSH: I think-- Are you finished?

MR. WILLIAMS: As I was saying, it's going to take some time to perform that job. I am finished.

MR. WELSH: I think you misunderstood my request, which was that the documents be available in this room for examination by the witnesses during their testimony. And it was in addition to that request that I asked that you determine which of those documents, first of

all with respect to Mr. Baer, then with respect to subsequent witnesses, indicated them either as

an addressor, addressee or as receiving copies.

But more specifically I requested the presence of the documents in this room.

If you don't furnish us with the other information, then we can ask each witness

to examine each document and tell us whether he received it as an addressee or sent it or was copied on the thing. But it is not so much the information as to whether each witness was indicated with respect to these documents that I was interested in as my request was for the documents themselves to be present in this room during the deposition.

MR. WILLIAMS: Well, I perhaps did misunderstand your request. I think, as a first step in determining which documents have to be present for which witnesses, we have to find out which witnesses were marked for copies and what documents. And as I say, that's going to take some effort to go through and make that determination. I don't think any of us want to sit here and listen to every witness go through every document being withheld on the grounds of attorney-client privilege. That is going to take an awful lot of time.

MR. WELSH: Well, I quite agree with you, and that's why you are examining the documents and determining the information that I requested would

shorten the time. But that still doesn't answer the question.

If the documents are here, there are only--I don't know--some one hundred and fifty to two hundred listed. I haven't even added them all up. There were fifty-two, I know, with respect to one request, and sixteen with respect to another, and two with respect to another.

So the first question is, will you bring those documents to this deposition room so that they may be available for examination by the witnesses?

MR. WILLIAMS: Yes, we will bring the documents. But, as I say, it's going to take some time to get them all out, to go from the list of documents to the files to pull them out. There's a correlation problem involved.

MR. WELSH: Is there someone that would be available? This appears to be a clerical job. Is there someone available who can be assigned to that task so it can be commenced? We are in disagreement, of course, as to whether or not

they should have been brought here in the first place in response to the subpoena. But without deciding that question, if you are going to produce them or bring them here, at least, then we won't apparently have to pursue the other matter. But perhaps there is someone who could be assigned this task of assembling them for bringing to this place. I don't know where they are or whether they are parts of other files or what.

MR. WILLIAMS: Well, that is the problem there, incorporating other groups of documents. We will try and assemble them as best we can is all I can say. We will try to cooperate.

MR. WELSH: Well, is there someone who doesn't have to attend this deposition who is capable of assembling them?

MR. WILLIAMS: I think not at the present time, no.

MR. WELSH: When do you expect it will be possible to put someone at that task?

(Discussion off the record.)
Mr. WILLIAMS: Well, I think we

have a lot of material to go through and I don't think that it's necessary to have it done immediately.

MR. WELSH: Well, I am not sure it's determined by whether you think it's necessary or not to have it done immediately.

MR. WILLIAMS: Could we go off the record for a minute.

(Discussion off the record.)

Q. (By Mr. Welsh) Mr. Baer, returning now to the time when you first became employed by Sanders Associates, which I believe you stated was August 1, 1958, did you at that time sign any agreements with respect to any inventions which you might make during the course of your employment?

A. Yes, I did.

MR. WELSH: Mr. Williams, could we have the copy of Mr. Baer's employment agreement?

MR. WILLIAMS: Off the record.

(Discussion off the record.)

Q. Do you have any other questions? MR. WELSH: Okay, back on the

record.

187 Q. (By Mr. Welsh) Mr. Baer, I hand you what has been
marked already as Sanders' Exhibit 6 and ask if
19 you recognize it?

A. Yes, I do.

88 Q. What do you recognize it to be?

89 A. A patent agreement between myself and the company,
Sanders Associates.

Q. Does that bear a date?

A. Yes, it does.

90 Q. Was that the date on which you signed the agreement?

A. Yes, it is, fifty-nine. Yes, that is correct.

1 Q. Does that refresh your recollection as to when you
first became employed by Sanders?

A. Indeed it does.

Q. I believe you thought earlier that it was August 1,
1958?

A. Fifty-nine.

Q. Have you signed any other agreements with respect to
assignment of inventions to Sanders Associates?

A. No, sir.

4 Q. Do you have any agreements of any other types with

Sanders Associates?

A. Sure. I have an employment agreement if there is such a thing.

195 Q. A written employment agreement?

A. No, there's no such document. I do not have such. Correct that.

196 Q. Do you have any agreements with Sanders relating to TV games?

A. No, sir.

197 Q. During your first six months at Sanders when you were a staff engineer with the Equipment Design Division, was that division a part of a larger group or sub-division of Sanders?

A. No, it was not.

198 Q. Did the division have a manager?

A. Yes, it did.

199 Q. To whom did he report?

A. The president's office.

200 A. After the first six months in the Equipment Design

Division, when you became department manager of the Electronic Design Department, to whom did you report?

A. Largely electronic counter-measures equipment.

A. The same division manager.

Q. What was his name?

A. Lloyd St. Jean.

Q. Was the Electronic Design Department then a part of the Equipment Design Division?

A. That is correct.

Q. How long did you hold the position of department manager of the Electronic Design Department?

A. Approximately a year.

Q. What were your duties as such department manager?

A. I was responsible for a number of electronic design engineering sections engaged in military systems and sub-systems development.

Q. Of what did each engineering section consist?

A. Supervisor, engineers, technicians, administrative support people.

Q. How many sections came under your supervision as department manager?

A. At various times, four to six.

Q. What types of products or systems were involved with the various sections?

A. Largely electronic counter-measures equipment.

208 Q. What other equipment which was not electronic counter-
measure?

A. Test equipment used in conjunction with counter-
measure equipment.

209 Q. Did the electronic counter-measure equipment involve
the use of cathode ray tubes?

A. It did not, sir.

210 Q. Did the test equipment?

A. It did not.

211 Q. Any other products or systems involved besides
the E.C.M. and the test equipment?

A. None that I recall.

212 Q. And during that period was the Equipment Design
Division still directly under the president's office?

A. Yes.

213 Q. After the year as department manager of the Electronic
Design Department of the Equipment and Design
Division, what did you do at Sanders?

A. I became division manager.

214 Q. Replacing Mr. St. Jean?

A. Yes.

215 Q. How long did you hold that position?

A. Ten, eleven or twelve years. I have to do some arithmetic.

216 Q. I will hand you a pad.

A. Thanks.

217 Q. Perhaps to simplify it, if you can remember the exact time when you ceased being----

A. No, I cannot remember. Close enough.

218 Q. Having had a chance to calculate----

A. After reconstructing, it's eleven years.

219 Q. Approximately what was the date, then, when you ceased being division manager of the Equipment Design Division?

A. The summer of '71.

220 Q. During that eleven years when you were division manager, did the function of the division within the company remain the same?

A. Essentially, yes.

21 Q. Did you as division manager continue to report directly to the president?

A. No. I reported to the president's office and subsequently to the Executive V.P.

22 Q. Approximately when did you begin to report to the

Executive V.P.?

A. I don't remember.

Q. Was it early in----

A. Somewhere in the mid sixties.

Q. Did you then at that time cease to report directly to the president?

A. The Executive V.P. is a member of the president's office.

Q. When you first started to work in the Equipment Design Division, you estimated there were approximately a hundred engineers?

A. No, sir.

Q. Will you correct me, then, please?

A. Yes. I believe what I said when I first started as manager of Electronic Design, there were some hundred engineers, technicians, support people in electronic design. The division really had less than two hundred people.

Q. So there was in the Electronic Design Department a hundred engineers and support people?

A. Roughly.

Q. And how many people were in the Equipment Design

Division?

A. The Equipment Design Division had anywhere from two hundred to five hundred engineers, technicians and support people over the course of the years.

Q. This was during your time as manager of the division?

A. Yes, it was.

Q. I believe you stated that the function of the division remained substantially the same during the time that you were the manager. And that was an involvement in military systems and sub-systems?

A. That is correct.

Q. During that time did the division deal with any equipment other than E.C.M. equipment and test equipment for that E.C.M. equipment?

A. Yes, it did.

Q. What other equipment did it deal with during the time that you were manager?

A. A variety of military jobs involving direction-finding systems, various classified intelligence gathering systems.

Q. Any others?

A. Command and control systems. That's it.

234 Q. Okay. Just to be sure we are complete, during the
time you were manager of the Equipment Design
Division, that division dealt with E.C.M. equipment,
test equipment for E.C.M. equipment, direction finding
systems, classified intelligence gathering systems,
and command control systems. Anything else?

A. Not that I recall, no.

35 Q. Did any of those systems that you just mentioned
involve the use of cathode ray tubes?

A. Yes, they did.

36 Q. Which ones?

A. A program for NASA for the Saturn Five launch
vehicles. That's all I recall, Mr. Welsh.

37 Q. During what period of time did the Equipment Design
Division work on that program for the NASA Saturn
Five launch vehicle?

45 A. I don't know the exact dates, Mr. Welsh.

38 Q. Will you give some approximation?

A. In the mid sixties.

39 Q. Do you have any recollection as to approximately
how long the division worked on that program?

A. The division worked on the program for roughly two
Q. Did the Equipment Design Division work on the Saturn vehicle

years."

Q. Was it one of the more important programs?

A. Yes, it was.

Q. I don't recall when Saturn Five was launch. Do you?

A. Well, Saturn Five-- Are we on the record still?

Q. Yes.

A. Saturn Five is a launch vehicle which was used to ^{lift} ~~life~~ a whole series of vehicles from the first

Apollo to the last Apollo mission. So it's

certainly a considerable span of years during

which Saturn Five was in operation as a vehicle and,

in fact, ^{it} _^ is still in operation as a vehicle.

Q. Was the work prior to the first Apollo mission?

A. Yes.

Q. Do you recall when that first Apollo mission was?

A. No, sir.

Q. How were cathode ray tubes used in that NASA program equipment?

A. They were used as a means to monitor remotely status indications from ^Sensor elements throughout the Saturn Five vehicle prior to launch.

Q. What did the ^Sensor elements on the Saturn vehicle

sense?

A. They sensed such quantities as temperature, pressure, voltage, other physical variables in the vehicle of importance to the launch personnel

Q. How were the CRT's or cathode ray tubes used in the monitoring of the indications from the censor elements?

A. The CRT's provided formats from storage into which the ^scensor data was entered, much as you would enter numbers with a pencil on a form. The operator might call forth a form, format, and the vehicle would automatically transmit the appropriate ^scensor data, and that data in alpha/numeric or graphic form would be displayed on the CRT in the appropriate places.

Q. When you said CRT provided formats from storage, what did you mean by storage?

A. Storage means digital memory and prepared slides.

Q. Was the digital memory a part of some apparatus?

A. Yes.

Q. What apparatus?

A. Computer.

Q. Where was the computer located?

A. It ^{was} ~~is~~ part of the system. *

252 Q. Was it located here during the development of the system?

A. Yes, it was.

253 Q. Was this a special computer or a general-purpose computer?

A. A general-purpose computer.

254 Q. Was it manufactured by Sanders or someone other than Sanders?

2 A. No, it was not. It was manufactured by ~~Deck~~ DEC. *

255 Q. Did it have any identifying model number?

2 A. I don't recall, Mr. Welsh.

256 Q. Where was the computer located here?

2 A. Somewhere in Canal Street

257 Q. Is there any way to refresh your recollection to determine somewhat more accurately roughly when the two-year period of work of the Equipment Design Division on the NASA program took place?

A. By a reference to a document somewhere in the company, not * in this room.

58 Q. Any idea roughly how long prior to the first Apollo mission?

A. I can't answer that, Mr. Welsh.

Q. Well, it was surely before that?

A. Oh, certainly. Years before that. We answered that before.

Q. I didn't know that you said years before.

A. Yes, we did, everything to do directly with the

Q. I'm sorry. Do you know how Digital Equipment

Corporation identifies its various computers?

A. Yes, I do.

Q. How? Was your name on the list of names instrumental

A. By model numbers. proposal which resulted in the

Q. And what model numbers?

A. Well, such as PDP-1, 2 or some such.

Q. Would that computer used with the NASA program

then have some Deck model number PDP with a number

A. after it? Well, all that, Mr. We'ron.

A. I don't recall that, Mr. Welsh. [unclear] generated the

Q. Are there any publications or documents that you

know of describing or relating to the NASA Saturn

Five launch vehicle system? The program taken out

A. Certainly. Cup?

Q. Any publications of Sanders?

A. Yes.

Q. Can you think of any specifically?

A. There is in existence all the normal paper work associated with a multi-multi-^{million}~~billion~~ dollar job somewhere in the corporation. *

Q. Did you have anything to do directly with the NASA program?

A. No, sir. I will correct that. Initially, yes.

Q. What?

A. Personnel from my division were instrumental in generating the proposal which resulted in the job.

Q. Was that done by one person or a group?

A. A group.

Q. Was the group headed up by any one person?

A. I don't recall that, Mr. Welsh.

Q. What happened after your personnel generated the proposal?

A. We won the job.

Q. And then was the work on the program taken out way of your group?

A. That is correct. Mr. Welsh----

Q. Yes.

A. I would like to correct that last answer. The management of the program was taken out of my group.

Q. Yes.

A. But work was not taken out of the group entirely.

Q. What was done within your group?

A. Circuit^{and} sub-system design.

Q. At the time it was going on, were you informed of work being handled within your group in this regard?

A. Yes.

Q. Was that still under your responsibility?

A. I don't believe I understand the question.

Q. Was that a part of your responsibility?

A. Yes.

Q. Was the group assigned to it?

A. A group of people.

Q. Did they have a supervisor under you?

A. Mr. Welsh, I can't answer that question either way because it's not how we function.

Q. Well, can you explain how you function, then?

Q. Could you be more precise as to what parts of the

A. The Equipment Design Division provides functional support to program groups in the company, and people are essentially assigned to job elements of jobs, at times under supervision from within the division and ^{at} times under supervision from within the program group.

283 Q. Under whose supervision were the people in your division who were assigned to work on the NASA program after the proposal was accepted?

284 A. Both under the supervision from within the division and under supervision from the program, depending upon the work elements.

285 Q. You stated that people in your division worked on circuit sub-systems? By these generators?

A. Circuits, sub-systems.

286 Q. For what part of the system which included the

A. Sensors, the computer and the CRT's? numbers from

A. The display systems hardware.

287 Q. The display systems include the CRT's; is that correct?

A. That is correct.

Q. Characters generated on a screen of the
Q. Could you be more specific as to what parts of the

display systems which they worked on?

A. Yes. They designed and built character generators,

~~random~~
~~ran the~~ access, deflection amplifiers, video

amplifiers, digital interface equipment. That's

~~about~~ ^{how} all the displays to communicate with ~~the~~ the

processor.

Q. Did you say processor?

A. Processor.

Q. That's a computer?

A. Yes.

Q. Anything else?

A. No.

Q. When you referred to character generators, what characters were generated by those generators?

A. Alpha/numerics.

Q. Could you tell us what alpha/numerics are?

A. Yes. Letters from the alphabet and numbers from zero through nine.

Q. And is an alpha/numeric display a display which displays such characters?

A. Yes, sir.

Q. Were the characters generated on a screen of the

cathode ray tubes? ... there to place

A. No, sir.

Q. Did the characters generated by the character generator appear on the cathode ray tube screen?

A. Yes, sir.

Q. When they appeared, were they stationary or did they move?

A. They were stationary.

Q. In all instances?

A. Yes, sir.

Q. Was it possible to move them?

A. I don't know, Mr. Welsh. It wasn't required.

Q. Did the systems include any controls by which the characters could be moved up or down or left or right?

A. Yes.

Q. Were such controls part of the character generators, that we were speaking of?

A. Perhaps. It's a complex system. Certainly the location of message on the screen occurs in some specific area on the screen. Therefore, it's controlled. However, that control ^{was} is likely to

reside in the ^{processor} ~~process~~ which "knew" where to place ^{the} information. *

301 Q. How did they know?

A. By virtue of software information.

302 Q. By software information do you mean the program for the computer?

A. The program.

303 Q. Did the display itself contain any controls by which the characters might be moved vertically or horizontally?

A. No, sir.

04 Q. Will you describe the display and what components it consists of?

304 A. The display physically is a console intended for an operator, single operator. The operator would sit at the console and have available to him push buttons. The console consisted of a random access CRT display, a character generator, associated power supplies, and a digital interface ⁿⁿ ~~correcting~~ the console with a digital processor system. *

5 Q. Anything else?

A. I think that sums up the details.

Q. When you say the digital processor system, did you mean the Digital Equipment Corporation computer to which you referred earlier?

A. Yes.

Q. That was a PDP number something?

MR. WILLIAMS: I object to

the question. I think that is a mischaracterization

Q. (of his testimony. Is there anything else that you?

A. I just don't know, I guess. THE WITNESS: I'm sorry.

Q. I don't follow you.

MR. WILLIAMS: I just thought at the Canal Street Fall... that he mistated your previous testimony.

AQ. (By Mr. Welsh) Do you understand the question?

A. No, I do not.

Q. Was it a Digital Equipment Corporation computer

A. Having identification by a PDP number?

A. I don't recall.

AQ. I believe you stated you didn't recall any number?

A. What PDP number it was.

Q. But it was a PDP number?

A. It was that corporation's computer. That's all I can tell you.

Q. You don't recall whether it had any PDP designation?

A. No, I do not.

Q. How many computers of ^{DEC} ~~Deek~~ Corporation did Sanders Associates have at that time?

A. ~~Yes, I don't know.~~ MR. WILLIAMS: If you know.

THE WITNESS: None that I'm aware of.

Q. (By Mr. Welsh): None other than that one?

A. I just don't know, I guess, is the proper answer.

Q. Well, do you know how many computers there were at the Canal Street facility of Sanders at that time?

A. I don't know.

Q. You stated that one component was a random access CRT display?

A. Yes.

Q. What does random access mean?

A. Random access means-- A random access display is one in which the instantaneous position of a beam or spot on a CRT can be randomly moved to any desired position in horizontal or vertical. Such a display is characterized by a separate X and Y for horizontal ^{amplifiers} ~~amplifiers~~ ^Λ ~~amplifiers~~

and vertical ~~respective~~ ^{the} deflection amplifiers

driving the electron beam through horizontal and vertical deflection yokes directly.

Q. Do the X and Y refer to coordinance on the CRT screen?

A. Yes. X refers to horizontal. Y refers to vertical direction.

Q. Was the entire area of the screen available for the illumination of points? Was it available for the illumination of points for that CRT display?

A. Yes. That point was determined by the voltage on

Q. Was that CRT display of a particular manufacturer?

A. Yes, it was. ~~amplifiers.~~

Q. Who? Are you familiar with the Model 30 or 36 display?

A. Sanders. ~~tel equipment?~~

Q. Did it have any model designation?

A. No, sir. It was specifically designed for the Saturn Five job. ~~her types of CRT displays?~~

A. Yes, there are. MR. WELSH: Shall we take a couple minutes recess?

A. ~~the is included in the~~ (Short recess.) ~~between~~

Q. (By Mr. Welsh): Was the CRT display which was specifically designed for the Saturn Five job ever

made a product of Sanders Associates?

A. No, it was not in the business of selling.

Q. Which was sold separately?

A. No.

Q. In that display was the beam limited to only specific locations to which it could be directed, or could it be directed to any point on the screen of the CRT? Involving that, what type of

A. Any point.

Q. And that point was determined by the voltages on the deflection yokes?

A. Deflection amplifiers, word earlier.

Q. Are you familiar with the Model 30 or 38 display of digital equipment?

A. No, I am not. THE WITNESS: The excellent

Q. You referred to a random access CRT display. Are there other types of CRT displays?

A. Yes, there are. That one was not offered as a

Q. What other types are there?

A. The distinction is generally made between random

access and raster scan.

Q. Now, Sanders is in the business of manufacturing and

selling displays, is it not, CRT displays?

A. No, sir. It's in the business of selling CRT the display systems which involve CRT's. We do not sell CRT displays.

Q. How long has Sanders been in that business?

A. Eight or nine years.

Q. In the earlier type of--or in the earlier display

systems of Sanders involving CRT's, what type of

CRT display was used?

Q. After the original commercial display, MR. WILLIAMS: I object to the question. It's vague. I don't understand

Sanders designs using a computer type of display?

A. Yes, there were. MR. WELSH: Well, we will

say earliest?

A. I don't recall, Mr. Welsh. THE WITNESS: The earliest

CRT display system that I recollect was that of

the Saturn Five display system.

Q. (By Mr. Welsh) That one was not offered as a

commercial product, is that right?

A. No. That is correct.

Q. Was the first commercial product eight or nine or was it directed to any part on the screen?

years ago?

A. I would say the beginnings of the commercial product design was back eight or nine years ago. When the first commercial product came out, I don't recall. Probably a year or two less than that.

Q. What type of display was used in the first commercial product design?

A. A random access display.

Q. Did that have a model number that you know of?

A. No, not as a ^{discrete} ~~discreet~~ display.

Q. After the original commercial product design used in the random access display, were there any Sanders designs using a raster scan type of display?

A. Yes, there were.

Q. When were they first designed?

A. I don't recall, Mr. Welsh.

Q. Can you recall approximately?

A. Roughly five years ago.

Q. When the Saturn Five display was used with the Digital Equipment Corporation computer, as it was used through a digital interface, was the beam confined to only discreet points on the screen, or was it directed to any point on the screen?

A. Any point on the screen.

Q. Among the components of the Saturn Five display you described--push buttons?

A. Yes.

Q. --at the console. Were those push buttons used to enter data into the computer?

A. Yes.

Q. Did they have any other functions?

A. Sure. One was used to turn the equipment off and on. I don't know, Mr. Welsh.

Q. Were the push buttons used to follow up any information from the computer?

A. Yes.

Q. Would you consider that another function?

A. Yes, certainly.

Q. Were there any other functions of the push buttons?

A. Yes, there were.

Q. What were they?

A. The console was capable of calling for hard-copy printout of any data displayed on the screen at

any time. You are taxing my recollection, Mr.

A. Welsh.

348 Q. Well, I would like to have you recall as much as you
 350 can. Can you recall any others?

A. Other functions?

49 Q. Yes, of the push buttons?

A. Well, yes. Some of the buttons allowed selective
 erasure of what was on the screen and ^a the change
 of formats that might have been on the screen.

350 Q. How was the selective erasure of the data displayed
 on the screen effected?

A. I can only guess at that, Mr. Welsh.

351 Q. Was there some kind of a movable indicator that
 could be moved to a position adjacent? A letter,
 for example?

56 A. Excuse me. There was a cursor, ^{What} which you just
 described ^{is} termed a cursor in ~~the~~ display systems.
 There was a cursor available to the operator which
 he could direct to some portion of the screen,
 because an alpha/numeric keyboard which I neglected
 to mention earlier was available so that he could
 type in data onto the screen.

52 Q. Could he make corrections in the data?

A. I don't recall specifically, Mr. Welsh, but every

display system has that kind of capability.

Q. Do I understand correctly, could he move the cursor to a point in the display system causing erasure there and then to the alpha/numeric keyboard place another character in the place where the erasure took place?

A. Yes.

Q. How did it operate? How did he move the cursor? By depressing the keys?

A. I don't recall. It's too many systems ago.

Q. But he could move the cursor horizontally and vertically?

A. As I recall, yes.

Q. And once he got it to the location of the letter

he wanted, erased, was the letter erased automatically

or would a depression of another key have to be

made?

A. A depression of another key would have to be made.

Q. Do you recall the individual characters? Did they

appear as lines or curves of discrete dots, or did they appear as solid lines?

A. They were cursive which ^{could be} described as solid, continuous

lines.

Q. They had the appearance of solid, complete lines?

A. Yes, they did.

Q. You referred to another component of the display designed by Sanders for the Saturn job as character

A. generators. Could you describe what was a character generator?

A. Yes, sir. A character generator for use with a random access display system develops horizontal and vertical deflection voltages with respect to time, such as to move the beam on the face of the CRT to form a desired character.

Q. Was there a generator, a separate generator, for each character?

A. No, sir.

Q. One generator for all characters?

A. Yes, sir. ^{An} Overall assembly, the character generator, ^{was} which ~~is~~ capable of generating all the required alpha- numerics, was all there was.

Q. Was there a portion of that generator which was

A. intended separately for use with each of the characters?

Q. From whom was that purchased?

- A. ^{was} No, sir. There ~~is~~ a portion of that character
generator which in response to outside commands
changes component values in such a way as to
create the necessary output of wave forms.
- Q. Was there memory in the character generator?
- A. Yes, if by memory you mean there were hard-wired
components which contained the intelligence
required to create the wave forms. There was no
digital memory.
- Q. When selective erasure data was being employed
using the keyboard and a cursor was it necessary
for the cursor to actually appear to touch the
character that was going to be erased?
- A. No, sir. It's common practice in display systems
to put the cursor somewhere below as you might
move a pointing finger below an area where you want
to make a modification atop of previous information.
- Q. Was the keyboard made by Sanders?
- A. No, sir.
- Q. Was that an item purchased from someone else?
- A. Yes, sir.
- Q. From whom was that purchased?

A. I don't recall, Mr. Welsh.

Q. In display systems designed by Sanders subsequent to the Saturn Five display, were there alpha-numeric displays where the characters were movable or moved, actually moved across the screen on the CRT?

A. No, sir.

Q. Are there any such today?

A. None that I know of, sir.

Q. Are you aware of any displays made by Sanders today where characters or images on the screen of the cathode ray tube of the display are movable under the control of the operator?

A. Yes, I am.

Q. How long has such display systems of Sanders been available?

A. Two or three years. Perhaps four.

Q. Other than the Saturn Five program, did any of the systems on which the Electronic Design Department worked while you were manager involve cathode ray tubes?

A. Would you be good enough to tell me what time frame we are talking about?

373 Q. Well, I was thinking of the eleven-year period
which terminated in the summer of 1971. So it
would have started back sometime in 1960, I guess.

379 A. I am aware of other display activities in the
company, but I do not recall any taking place in
my division, except to the extent that some of
my engineering personnel might have contributed
to the design of some program groups display
systems.

374 Q. How did you become aware of the other display
activity?

380 A. In general, if engineering personnel in your
jurisdiction is asked to work on a program, you
become at least superficially acquainted with the
381 existence of such a program.

375 Q. And that's how you became aware of it?

382 A. Yes.

376 Q. What other display activity did you become aware of?

A. There is a group in the company in military data
systems which ^{is} occasionally involved ⁱⁿ displays.

77 Q. What was that group?

A. The Military Data Systems Group.

378 Q. When did they become involved in displays during
the time you were manager of the Electronic Design
Department?

A. I think it's accurate to say that they are an
outgrowth of the Saturn Five program.

379 Q. Now, that's the Military Data Systems Group. Was
there another group that, as an outgrowth of the
Saturn Five Program, began to design display systems
for sale, commercially?

A. There was another group, but they did not come
into being as a result of a Saturn Five job.

380 Q. And that's the group that we were discussing
earlier that designed display systems?

A. Yes, which today is the Sanders Data Systems operation.

381 Q. Also known as SDS?

386 A. Correct.

382 Q. Is that a group or division?

THE WITNESS: I am sorry,
Mr. Welsh.

MR. Etlinger, is Data
Systems a division or a subsidiary? displays, very

MR. WILLIAMS: Mr. Baer, you

answer the question from your own knowledge.

Q. Was it that THE WITNESS: I'm sorry.

I don't really know.

Q. (By Mr. Welsh) What types of displays were involved with the military data systems?

A. Air traffic control displays. Some cockpit displays. More recently, displays in training systems.

Q. By more recently, what do you mean?

A. The last three or four years.

Q. Any others than air traffic control, cockpit and training systems?

A. No, Mr. Welsh. I don't have any official contact with the division, ^{what} but I know it comes out of company releases or occasional personal contacts with the personnel involved.

Q. You mean that's personnel that were working under you?

A. It might have been, or general.

Q. Do you recall whether they were the random access display or raster scan?

A. No. We specialize in random access displays, ^{very} have high-speed random access displays at Sanders. It's

our whole strength.

Q. And was it that type of display which was used by the Military Data Systems Group?

A. Variations of that type of display. Yes, sir.

(Short recess.)

Q. (By Mr. Welsh) In the summer of 1971 when you ceased being manager of the Electronics Design

Department, what did you do at Sanders?

A. Ceased being division manager.

Q. Excuse me? I am now known as the Product Group.

A. At the time I became division manager of the

Flexprint Division of Sanders Associates. specific

Q. What did the Flexprint Division do at that time?

A. Manufacture flexible and hardboard printed circuits.

Q. How long did you hold that position?

A. Approximately a year. It's probably 1972.

Q. So that would be roughly the summer of 1972?

A. You lost me. I don't know what division located?

Q. Well, I believe you stated you--

A. Yes, sir. I'm not sure. Approximately 1972.

Q. Okay. During that period did you have anything to

do with display systems? when you were manager of the

A. Nothing whatever.

Q. What did you do in the summer of 1972 when you were no longer manager of the Flexprint Division?

A. I joined the Electro-optics Division as chief engineer after a brief hiatus in a staff position.

Q. As manager of the Flexprint Division, to whom did you report?

A. The group division manager, ^{Leo} Neil McLaughlin.

Q. What group was that?

A. A group which is now known as the Products Group.

Q. What was it known as then?

A. I don't recall, Mr. Welsh. But it had a specific title. It was an entity composed of product operations.

Q. It was an entity rather than being a part of some other larger sub division of the company?

A. That is right. Yes. It's physically located in Manchester.

Q. Where was the Equipment Design Division located?

A. Initially in Canal Street. Later, both in Canal Street and this building. And currently I guess in every plant of Sanders Associates.

Q. During the eleven years when you were manager of the

Equipment Design Division, what were its locations?

A. Canal Street and South Nashua, this part.

Q. Did you yourself move from Canal Street to South Nashua?

A. No, sir. I moved back and forth between Canal Street and South Nashua since I had offices in both facilities.

Q. When did part of the division move to South Nashua?

A. I don't remember, Mr. Welsh. Five or six years ago.

Q. Sixty-nine or seventy?

A. Yes.

Q. Did any portion of it have any other location than Canal and South Nashua while you were manager?

A. No. Except in ^{the} sense that people were assigned to other facilities and might reside there for the duration of a job and then come back to their home group.

Q. In the summer of 1972 when you were no longer manager of the Flexprint Division, what staff position did you hold, briefly?

A. I remained on the McLaughlin staff.

Q. And he was manager of the group including the Flexprint Division?

A. That is right.

Q. For approximately how long was that?

A. Six to eight weeks.

Q. Then you joined the Electro-optics Division as

A. chief engineer and still in 1972?

A. That is correct.

A. I would like to propose a new new business for the division.
MR. WELSH: Why don't we take another couple minutes of break.

Q. Did any of those efforts have anything to do with it?
(Short recess.)

Q. (By Mr. Welsh) I believe this morning we discussed

A. what you did as chief engineer of the Electro-optics

Q. Division. What did you do at Sanders starting in November of 1974 when you were no longer chief engineer of Electro-optics Division?

A. I was staff to Dr. Rubin, the division manager, who has since ~~come on~~^{become} the Defensive Systems Division.

Q. Is that still part of the Federal Systems Group?

A. Yes, it is.

Q. And does Dr. Rubin still report to an executive vice

president?

A. No. The Federal Systems Group has its own manager who currently is Mr. Baird, B A I R D, who in turn reports to the president's office or the executive vice president. I don't know just which.

Q. How long did you hold that position as staff to Dr. Rubin?

A. Until August 1, 1975.

Q. What were your duties in that position?

A. I participated in proposal efforts for new business for the division.

Q. Did any of those efforts involve video games? TV games?

A. No, sir.

Q. Part of that period, however, was a time when you were engaged in this other analysis for Mr.

Campman?

A. That is correct.

Q. What did you do starting August 1, 1975?

A. I became a member of the Corporate IR&D Group.

Q. In what capacity?

A. As a member of the Technical Staff.

420 Q. That's the position you hold now, is it not?

A. Yes, sir.

421 Q. And you are a staff engineer or an engineer?

A. The definition is Member of ^{the} Technical Staff. *

422 Q. To whom do you report now?

A. Herbert Campman, the director of ~~RD. I R & D~~. *

423 Q. Now, that's been a group for sometime, has it not?

A. Yes, sir.

424 Q. Approximately how long? Do you know?

A. In excess of ten years.

425 Q. Has Mr. Campman been director of that group during that entire time?

A. Yes, sir.

426 Q. Is that group part of a larger group or subdivision of the company?

A. No, sir. It's a corporate entity.

427 Q. To whom does Mr. Campman report?

A. At present to-- There was just a change in command.

Q. May I get permission to ask for help?

A. Yes, sir. MR. WILLIAMS: If you don't

Q. remember, you don't have to state.

A. Harold Pope. THE WITNESS: I don't remember.

Q. (By Mr. Welsh) When did the change in command occur?

A. Several weeks ago.

Q. Prior to that time, to whom did Mr. Campman report?

A. Dr. George Sebastian.

Q. For how long a period did Mr. Campman as director

of IR&D Group report to Dr. Sebastian?

A. I don't know, Mr. Welsh.

Q. What is Dr. Sebastian's position?

A. Dr. Sebastian left the company. He was the manager

of the Federal Systems Group for several years. He

was a vice president of Sanders Associates.

Q. And was he the person to whom Mr. Campman reported

throughout the existence of the---

A. No, sir.

Q. Did he report, Mr. Campman, that is, report to

someone else?

A. Yes, sir.

Q. Prior to reporting to Dr. Sebastian?

A. Yes, sir.

Q. Who?

A. Harold Pope, then executive V.P., now president.

Q. When did Mr. Campman start reporting to Mr. Pope?

A. I don't know, Mr. Welsh.

Q. Do you know during what period Mr. Campman did report to Mr. Pope?

A. Until roughly two years ago. I'm sorry. That's probably incorrect. Roughly one year ago.

Q. Does Mr. Campman now report to the manager of the Federal Systems Group?

A. No, sir. He reports to Mr. Albert Wight, W. I. G. H. T.

Q. What is his position?

A. Vice president. Corporate vice president.

Q. In charge of any particular group?

A. I don't know, Mr. Welsh.

Q. How large a group is the IR&D?

A. Less than ten members at present.

Q. Would you state who they are, please?

A. Mr. Campman, Richard Dilly, Daniel Blitz, Robert Mercer, two secretaries, a publications man whose name I do not know, librarian, Linda McKinnon, and I believe one or two assistants to the librarian.

Q. And yourself?

A. And myself.

Q. Has the group been composed of more people in the past?

A. No, sir. The converse.

Q. It's been composed of fewer people usually?

A. Yes, sir.

Q. When did it grow larger to its present size?

A. It has increased in size gradually over the past ten odd years.

Q. Did you state that it commenced about ten years ago?

A. I said at least ten.

Q. At least ten. Were you familiar with it when it did commence?

A. Yes, sir.

Q. How many people did it have at that time?

A. One or two.

Q. One other being Mr. Campman?

A. Mr. Campman.

Q. And who were the others at that time?

A. I don't remember, Mr. Welsh.

Q. Was there a secretary or somebody else?

A. I don't remember whether Mr. Campman had an assistant

initially.

Q. During the time when you were manager of Equipment Design Division, did you have any other projects for Sanders Associates outside of that division?

A. No, sir.

Q. During that time did you have anything to do with the IR&D Group?

A. Yes, sir.

Q. But that was not a project outside of the Equipment Design Division?

A. No.

Q. Was it a project within the Equipment Design Division?

A. Through the years. Numerous projects.

Q. What was the first one of those projects?

A. I can't possibly recall that.

Q. You don't recall?

A. No. There were dozens of programs through the years, every year. There must be hundreds of programs.

Q. That you have been involved with with IR&D?

A. Which my division was involved and through which I had contact with the IR&D Office.

Q. Did you have any contact with IR&D in any other capacity as manager of Equipment Design Division?

A. No, sir.

Q. Did you have any contact with IR&D Group in connection with TV games?

A. Yes, sir.

Q. In what capacity were you acting at the time that you had that contact?

A. As division manager of Equipment Design.

Q. So was it part of your connection with a part of your duties as manager of the Equipment Design Division to have contact with IR&D Group with TV games?

A.. Yes.

Q.. Could you tell us what that first contact with IR&D Group with respect to TV games was?

A. Yes, I can. It was sometime after I had the initial concept for playing games on a TV set that

Q. it became clear that I should carry that work on under an official IR&D task to keep adequate track

A. of the work and keep it funded.

Q. When did your initial concept for playing games on a ubiquitous electronic device first arise?

TV set occur?

A. Sometime in August of '66. The first hand written document was dated one September, I believe, '66.

Q. Would you explain the circumstances under which the concept occurred to you?

A. As best as I can recall, the motivation, the circumstances, sir-- No, I cannot specifically relate when the concept appeared spontaneously, except that I thought about the ideas during August and then decided to do something about them early in September.

Q. What were you doing when you thought about them in August?

A. I don't understand the question.

Q. Well, when did they occur to you? What was going on when they occurred to you?

MR. WILLIAMS: If you recall.

THE WITNESS: I don't recall.

Q. (By Mr. Welsh) You used the term motivation. Was there a motivation for the concept?

A. Yes. I recall.

A. Yes, a number of them, one of them being the ubiquitous existence of TV sets and raster scan

devices and monitors everywhere you looked, and the obvious advantage to being able to attach something to those display devices that could make money.

MR. WELSH: Could I have that question read back, please?

(Whereupon, the question was read back by the Reporter.)

Q. (By Mr. Welsh) What other motivations?

A. Since my educational background is one of a television engineer, ^{and} I have not been able to work on TV sets since those days in Loral Electronics in 1950, which ^{is} ~~are~~ a part of the record, and always have been desirous of getting my hands on television equipment and always followed the art in the sense of having kept up with reading in the area. I have been a member of the I triple ^{TV} E and Broadcasting Group as far back as I can remember. I always kept abreast. It's always been one of my avocations.

Q. The question was, were there any other motivations? You stated there were several.

A. Yes. I named two.

Q. There are no others?

A. There are no others that I recall.

Q. Between the time you were with Loral and the summer of 1966, did you have a home workshop? I mean,

A. Yes, I always had a home workshop. Television sets

Q. Was it equipped to work with TV sets?

A. I fixed TV sets occasionally to the extent to

Q. which I ^{was} ~~am~~ equipped. ~~... the concept.~~

Q. And to what extent were you equipped? on TV sets

A. Well, in '66 I probably owned a volt ohmmeter, ^a

A. ^{tube} vacuum volt ohmmeter, and a ^{signal} ~~single~~ generator left

Q. over from World War Two, and an equally antiquated

A. tube checker. ~~... the East Side Guy ...~~

Q. Did you have the ohmmeter--? When did you get

the ohmmeter?

A. Bought it in the late forties.

Q. In connection with your TV classwork?

A. No, sir. No. In connection with electronic

Q. gadgets I built while going through school. That was much earlier.

Q. And how about the vacuum tube ohmmeter?

A. I must have bought that in around about 1950.

Q. Did you have any other equipment that you used for

fixing TV sets?

A. No, sir.

Q. Did you do anything in your TV workshop, I mean, in your workshop with respect to television sets other than fix one occasionally?

A. No.

Q. Do you recall where you were when the concept, the original concept of playing games on TV sets occurred to you? Was it on a piece of paper?

A. Yes. As a matter of fact, I do. The time I spent

Q. Where were you?

A. I was sitting in the East Side Bus Terminal of New York City waiting for another Sanders man to join me. It was some business assignment. I don't recall.

Q. Would you describe what happened, when, and what you did when the concept occurred to you?

A. I do not recall. I can only surmise. I either made mental or written notes which no longer exist, as far as I know. The subject of the visit.

Q. When the other man joined you, did you relate the concept to him?

A. No, I did not. He had before, Mr. Welch.

A. Certainly not.

Q. Who was that other man?

A. I don't remember that.

Q. You say certainly not. Why not?

A. When one has a reasonably good idea or it appears to be a reasonably good idea, it's not judicious to talk about it until after one deposits ^{it} on a piece of paper and takes all the necessary precautions. *

Q. Did you place the idea on a piece of paper?

A. I clearly did subsequently. At the time I might have. I do not know.

Q. Do you recall whether you were returning to your home or your job when you were in the East Side Bus Terminal, or whether you were going somewhere else?

A. No. I recall specifically that I was waiting for another man to join me, whereupon we went on to someone's office downtown New York, somewhere on a business call totally unrelated. I don't even remember the subject of the visit.

Q. Do you remember the individual?

A. No. You asked me that before, Mr. Welsh.

Q. Oh, I'm sorry.

A. I don't remember who it was. Someone-- Well, I do not know. I don't remember. Someone from Sanders, obviously.

Q. At that time did you make frequent trips to New York?

A. I traveled quite a bit.

Q. To New York?

A. No, not necessarily to New York.

MR. WELSH: Off the record.

(Whereupon, the deposition was adjourned.)

Ralph H. Adair
Deponent

* * * *